What is claimed is:

1. A method of transmitting data across a network comprising the steps of:

receiving a plurality of Internet protocol packets each of which contains data and priority information at a first router;

encapsulating the data contained in the Internet protocol packets into frame relay frames containing the priority information;

transmitting the frame relay frames from the first router to a frame relay network in a manner determined by the priority information included in the frame relay frames; and

transmitting the frame relay frames across a frame relay network to a second router in manner determined by the priority information included in the frame relay frames.

2. The method of claim 1, wherein the step of transmitting the frame relay frames from the first router comprises transmitting the frame relay frames over more than one permanent virtual circuit.

3. The method of claim 2, wherein each of the more than one permanent virtual circuits is used to transmit frame relay frames having predetermined priority information.

4. The method of claim 2, wherein each permanent virtual circuit is used to transmit frame relay frames having predetermined priority information when a congestion condition exists.

5. The method of claim 2, wherein the group of permanent virtual circuits includes at least one circuit designated to carry frames containing critical information and at least one circuit designated to carry frames containing non-critical information.

6. The method of claim 1, further including the steps of:

converting the frame relay frames arriving at the second router into Internet protocol packets having the priority information; and

transmitting the Internet protocol packets from the second router toward a destination location in a manner determined by the priority information included in the Internet protocol packets.

7. The method of claim 1, wherein the step of transmitting the frame relay frames across a frame relay network to a second router comprises the steps of:

receiving the frame relay frames at a frame relay egress switch; and

transmitting the frame relay frames from the frame relay egress switch to the second router over more than one permanent virtual circuit.

8. The method of claim 7, wherein each of the more than one permanent virtual circuit is used to transmit frame relay frames having predetermined priority information.

9. The method of claim 7, wherein the frame relay frames are transmitted from the frame relay switch to the second router in a manner determined by priority information included in the headers of the frames.

10. The method of claim 1, wherein the priority information of each Internet protocol packet arriving at the first router is located in a header of each Internet protocol packet.

11. The method of claim 1, wherein the priority information of each Internet protocol packet arriving at the first router is a function of an address of each Internet protocol packet.

12. A computer network comprising:

a first router that receives packets containing data and priority information;

a frame relay network containing a frame relay egress switch;

a first permanent virtual circuit coupled between the first router and the frame relay egress that is used to carry frames having priority information corresponding to a first level of priority;

a second permanent virtual circuit coupled between the first router and the frame relay egress that is used to carry frames having priority information corresponding to a second level of priority;

a second router;

a third permanent virtual circuit coupled between the frame relay egress switch and the second router that is used to carry frames having priority information corresponding to the first level

of priority; and

a fourth permanent virtual circuit coupled between the frame relay egress switch and the second router that is used to carry frames having priority information corresponding to the second level of priority.